

# FISHERY RESEARCH



## ANGLER MARKET SEGMENTATION, ANGLER SATISFACTION, AND ACTIVITY PERSISTENCE AMONG IDAHOANS

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# **ANGLER MARKET SEGMENTATION, ANGLER SATISFACTION, AND ACTIVITY PERSISTENCE AMONG IDAHOANS**

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## **INTRODUCTION**

Because little is known about the angling experiences desired by Idaho's anglers and how these preferences originate and sustain the activity, the growing pressure and competition for the state's limited angling resources cannot now be adequately accommodated and integrated by managers. Furthermore, there is little data with which to gauge how specific angling regulations affect the nature of the fishing opportunities that are provided, or how regulations impact individual fishing experiences. This series of studies are designed to provide data that compliment traditional biological management data by providing meaningful indicators of angler sentiment and motives.

This report describes progress for 12 months of a research effort aimed at characterizing the different segments of the Idaho angler population, specifically:

1. A survey of Bureau of Fisheries staff identifying their social science research needs
2. A series of literature synopses:
  - a. The relationship between angler motivations and satisfaction
  - b. Angler Segmentation
  - c. Activity Persistence
3. A preliminary survey of users Henry's Lake
4. Development and pre-testing of mail survey instruments for three populations of Idahoans (active anglers, inactive anglers, and non-anglers)

## FINDINGS

### 1. A survey of Bureau of Fisheries staff identifying their social science research needs

A questionnaire was administered by bureau staff to those attending the summer bureau in-house training session. The questionnaire solicited three types of information using the following questions:

1. *Describe the three most important fisheries related decisions that you currently face, or expect to make in the next 3 years. Please be as explicit as possible, giving as much detail as needed to fully describe the situation.*
2. *Now examine each situation for the role that you believe social science could play in helping you understand and make your decision. What specific social information do you think will help, and how will you be able to use that information? (You may end up identifying several different types of information and/or uses for each decision.)*
3. *Traditionally, fisheries biologists and social scientists studying anglers have "classified" anglers using many different schemes: fly vs. bait anglers; lake vs. stream anglers; bank fishing vs. boat fishing; warm vs. cold water anglers; resident vs. anadromous fisheries, and so forth. Recently, some have segmented anglers into unique types based on their motivations for fishing, the type of equipment they use and their level of experience (specialization) or their behavior. While these are valid and practical ways to categorize anglers and the settings in which they fish, they fail to fully capture the whole range of relationships between person (the angler), the outcome or product of their fishing experience and the setting in which they choose to fish. Furthermore, they may not be completely relevant to managers.*

*As trained fisheries biologists working in Idaho (and as anglers!) can you suggest new, valid and useful ways of categorizing the anglers and the fishing settings that one encounters in Idaho? These could be based on the way people fish, the nature of the waters, the management regimes of the streams/lakes, or whatever system of classification you think could be applied to the state of Idaho as a whole. Please offer all the ideas you may have, the more "crazy" thoughts you can give us, the better!*

Completed questionnaires were received back from 42 bureau staff. Because of this lower than expected response rate we did not attempt to relate the responses in question 1 (types of decisions) to those to question 2 (types of information). Instead, the responses to both questions were aggregated into categories based on content. Responses to question 3 (ways of classifying anglers and settings) were less than adequate in terms of providing meaningful ideas. This is probably related to the fact that the questionnaire had been designed for administration by the research team after some preliminary discussion of the issues involved.

**Major Social Science Information Needs Identified by Bureau Of Fisheries Staff  
(n=42)**

**i Threatened and Endangered Species Management**

1. Attitudes and understanding of public toward T & E recovery and preservation of the species issues in general.
2. Role of anadromous fish hatcheries in recovery
3. Public willingness to pay for salmon recovery

**ii Public Acceptance of Management Practices**

1. Acceptance of length limits
2. Determine if the public understands the goals and objectives of supplementation
3. Public awareness/support of tradeoffs between anadromous/resident fish
4. Public expectations for a fishery. What programs will public (including. non-anglers) support?
5. Public perceptions of hatchery/natural fish.

**iii Components of the Angling Experience**

1. Angler expectations; meet them, or change them? Expectation of quality fishing trip - by population segments. Expectations, motivations of anglers, especially hatchery trout vs. wild trout
2. Do people want to catch lots of fish in a short time without regard to setting. What do they seek from a quality experience- size vs. numbers, etc.
3. Harvest vs. catch and release. What is the interest in non consumptive angling?
4. Kind of angler fishing a particular body of water
5. Attributes of angling experience other than actual fishing
6. Perception of harvesting any fish versus hatchery/wild/natural
7. What will keep anglers coming back?
8. Why anglers fish a particular body of water
9. Why do people decide not to fish?
10. Why do people move to Idaho - what is the role of angling.
11. Why don't kids under 12 go fishing

**iv Angler Management**

1. Are traditional anglers being displaced?

2. Public knowledge, understanding and support of instream flows to support fisheries. Perceptions of public toward water use. How much reduction in agriculture would Idahoans support in order to provide adequate water for fish
3. Can angler efforts be redirected through the media
4. Expectations of new Idaho residents about fish and wildlife resources
5. Extent of support from sportspeople if IDF&G becomes more aggressive in dealing with land abusers
6. Awareness of problems, costs/benefits. How much would anglers be willing to pay to retain or purchase water rights in critical drainages. Monetary and intrinsic value of streams, fish, and scenery. What are the costs/benefits of various uses of water. Is the public aware of the possible economic benefits/costs of a sport harvest for anadromous fish?
7. How to get realistic input from apathetic anglers/the majority.
8. Public perception best way to get more harvest opportunities

v Internal Agency Affairs

1. How to develop rapport and confidence in colleagues to increase cooperation and understanding of problems
2. How to make statewide put and take guidelines understandable, and used *within the agency*
3. Institutionalized hatchery practices; sacred cows, internal barriers to reform
4. Intrinsic values of *biologists/managers* job and their relationship to salary
5. Perception of staff levels, effectiveness of staff

vi Public Information

1. How to explain what IDF&G can and cannot do regarding the ESA.      How to present recovery options to regional populations.
2. How to influence public, gain support for water management beneficial to fish
3. How to inform public about effect of irrigation, etc., on fisheries
4. How to sell restrictive harvest
5. Methods for clarifying and resolving conflicts

vii Demographics

1. Can license sales be forecast?
2. Demographic projections
3. Demographics, new residents versus long time residents.

## **2. A series of literature synopses:**

### **a. The relationship between angler motivations and satisfaction<sup>1</sup>**

Satisfaction has long been identified as the principal "product" of the recreation experience. But what constitutes a satisfying or quality experience is still being debated and researched. One major goal of this review was to address a question prevalent in studies of consumptive recreation (i.e., fishing and hunting), namely determining the relative importance of harvesting (catching) within the broad range of outcomes that are sought through fishing. While "multiple satisfaction" is now a well accepted concept, considerable polarization exists among authors relative to the interpretation of the importance and role of harvest and its role in determining satisfaction and activity persistence.

A search of 100 pertinent empirical works suggested that the outcomes ("satisfaction") that people derive from fishing can be reduced to nine major groups:

1. Escape; relaxation; change
2. Consumption; trophy
3. Skills; achievement
4. Challenge; thrill; excitement
5. Social opportunities
6. Solitude; introspection; privacy
7. Nature; natural; wild
8. Explore; learn
9. Teach; control

The synopsis highlighted the universal acceptance of the need for escape, relaxation and change, and of the role nature, or natural or wild settings plays in motivating anglers. Not only have most studies included measures of these two dimensions, but most studies have also found these two to be the two most important motivational factors. This suggests that focusing on the other, more variable components of the experience may allow greater discrimination between types of anglers, and allow more precise measures of angler satisfaction.

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<sup>1</sup> The Relationship Between Angler Motivation and Satisfaction, with Special Emphasis of the Role of Market Segmentation to Enhance Measurement and Management of Angler Satisfaction. Prepared by Nick Sanyal and Bill McLaughlin for Idaho Fish and Game. May-August 1992.

## b. Angler Segmentation<sup>2</sup>

This synopsis represents a preliminary analysis of the literature on angler segmentation based on the review of 65 articles<sup>3</sup> related to the topic. Additionally, one annotated bibliography and one contemporary literature review that was commissioned by the Norwegian Institute for Nature Research were consulted. The review presented a broad view of the major foundations of the segmentation literature and had three objectives: 1) to identify the major dimensions of angling that have been used to construct the typologies; 2) to evaluate the generalizability (external validity) of the segmentation for application or adoption in Idaho, and 3) to help formulate an approach for measuring and using angler segmentation in Idaho.

Despite the apparent divergence of the major segmentation studies, several conclusions could be made :

1. The term "angling" is excessively broad and fails to account for the diversity in motivations, behaviors, experiences and practice of the sport.
2. Almost all the papers we examined accepted, either tacitly, or by implication the notion of multiple dimensions of motivations for fishing (multiple satisfactions)
3. While the results of individual studies may not be directly comparable to each other because of differences in measurement and wording the major dimensions of a "generalized" fishing experience may include the four domains: natural settings/nature appreciation, using skills and equipment, escape work-time pressure and the need/ability to be social.
4. These four domains (components of the experience) have been arrived at through motivational studies, satisfaction studies, benefit studies using a variety of approaches and methodologies. They have also been equally well documented for other outdoor pursuits, notably hunting, backpacking and camping, and river running. Does this mean that they are so salient that documenting their presence is the social science equivalent of saying "fish need water?" (That they are not artifacts of survey procedures or researcher bias is borne out by the several studies using corroboration approaches (both close ended and open questions in the same survey).
5. This suggests two approaches:
  - a. First, if they are indeed salient, then the next step is to adequately document the differing and specific needs of the different groups of anglers. This is the social science equivalent of determining the specific types of waters that individual species of fish need.

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<sup>2</sup> The Literature on Angler Segmentation. Prepared by Nick Sanyal and Bill McLaughlin for Idaho Fish and Game. May 1992.

<sup>3</sup>Only 33 of these articles focused on or reported on segmentation.

- b. Second, if these domains are common to many/most outdoor pursuits, then what domains are unique to angling. What does angling provide that other forms of recreation do not?
- 6. A segmentation based on these "unique-to-angling" domains may prove a better and more meaningful way to type anglers. One such approach is the consumptive orientation scale of Fedler and Ditton. While a consumptive domain is not unique to fishing, it is because fishing allows for so much more consumption than does hunting, for example, that some scientists have chosen to measure it. Consumption itself represents several constructs: motivations, expectations, outcomes, benefits and satisfaction.
- 7. The value of any segmentation approach is in how its differences hold up against preferences for management. Because the management scenarios are developed and utilized at a site specific level they are even less generalizable than angler segmentation results. For instance, knowing that anglers in Wyoming prefer 9" trout is of little value in northern Idaho, because the anglers here are reacting to very different management and social regimes.
- 8. Most of the research has been case-study organized with little attempt to produce results that were generalizable beyond their socio-political environment. Thus this criticism should not be taken as denouncement of the approach, but rather as a statement of where the science is today. However, the outputs for critical thinking and conceptual advances have been higher because of this approach.

c. Activity Persistence<sup>4</sup>

The purpose of this synopsis was to provide an evaluative review of the recreation constraint and activity persistence literature, paying particular attention to the conceptual, analytical, and practical generalizations. These provide insight for investigating the constraints and motivations of active anglers, non-active anglers, ex-anglers, and potential anglers. Specific findings from past research are not reviewed here. Instead a parsimonious synthesis of research and conceptual developments is provided.

A logical first step in understanding activity persistence, commitment, and non-participation among Idaho anglers would be to estimate the size of each of the sub populations. That is, how many people are current participants, former participants, and so forth.

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<sup>4</sup> Synopsis of the empirical and theoretical literature on activity persistence, with emphasis on developing survey instruments and methodology for use with sport anglers in Idaho. Prepared by Nick Sanyal for Idaho Department of Fish and Game, September 1992.



A diversity of opinion exists regarding the concept of commitment and how it should be measured. Three main approaches have been used in the past with varying degrees of success.

1. The amount of past experience—frequency of participation, number of years of participation, age of first participation, frequency relative to other comparable activities.
2. Centrality—how important angling is to a person.
3. Investment—multi-variate assessment of the amount of equipment, memberships, fishing partners, favorite places, money invested, length of training/skill development, miles traveled, etc.

#### Preliminary Recommendations for IDF&G:

1. Evaluate the consumptive dimension instrument that has been developed for Henry's Lake for possible use throughout Idaho, and for use at specific sites.
2. Link consumptive profiles to local/on-site management issues paying particular attention to possible generalizability to other similar sites within the state.
3. Conduct a statewide, multi-attribute, multi-measure empirically based segmentation of anglers to identify the broad range of angler experiences/markets offered in Idaho.
4. Link these consumptive profiles to motivational segments and behaviors.
5. Finally, less than five of the studies that we have reviewed to date included any form of monitoring or follow up to see if the segmentation did indeed result in more responsive management, fewer problems, higher quality fishing, or so forth. One way to advance the integrating of social and biological sciences to make resource decisions is to plan and conduct such a program. Such an approach would also facilitate the use of experimental designs for testing the utility of angler segmentation as a way to enhance angler satisfaction. An analysis of these existing reports is forthcoming.

#### 3. A preliminary survey of users Henry's Lake

A short instrument, fashioned around Fedler and Dittons's consumptiveness scales was developed for IDF&G administration during the opening weekend of the 1992 fishing season at Henry's Lake. Only 26 questionnaires were returned, rendering the data useless for their intended purposes, namely, testing the hypothesis that Henry's lake attracts anglers with a trophy-consumptive orientation. Instead, the data were used as part of the pre-testing for the mail surveys to be completed in 1993.

4. Development and pre-testing of mail survey instruments for three populations of Idahoans (active anglers, inactive anglers, and non-anglers)

Survey research, utilizing a mail-back questionnaire and following Dillman's Total Design Method (TDM), will be used to collect angling history, experience and setting preferences, demographics, and other baseline data from three samples of Idahoans. The first sample (N=800) is of active anglers, and is ready to be mailed on January 4, 1993. The second sample (N=800) is of anglers who have not purchased a fishing license since 1987. The third sample (N=1400) is of Idahoans who have never purchased a fishing license in Idaho. These last two samples will be ready for administration in late February, 1993.

All three survey instruments have been developed and pre tested. Content areas of each instrument is as follows:

CONSTRUCT	INSTRUMENT 1 Active anglers	INSTRUMENT 2 Inactive anglers	INSTRUMENT 3 Non anglers
<b>General fishing experiences:</b>			
Kinds of fishing	✓	✓	
Fishing partners	✓	✓	
Initiation	✓	✓	
Competing activities	✓	✓	
Frequency	✓	✓	
<b>Motivations for fishing:</b>			
Desired outcomes (27 items)	✓	✓	
Satisfaction (5 items)	✓	✓	
Availability of opportunities (27 items)	✓	✓	
Centrality of fishing	✓	✓	
Consumptiveness (12 items)	✓	✓	
<b>Activity persistence:</b>			

Reasons for persistence (31 items)	✓		
Setting quality (5 items)	✓		
IDF&G evaluation	✓		
Skill level	✓		
<b>Inactivity:</b>			
Reasons for inactivity (36 items)		✓	
Setting quality (5 items)		✓	
IDF&G evaluation		✓	
Increasing activities		✓	
New activities		✓	
Impetus for resumption		✓	
Skill level		✓	
<b>Non-angling:</b>			
Reasons for non-angling (36 items)			✓
Impetus for starting			✓
Interest level			✓
<b>Demographics:</b>			
Age	✓	✓	✓
Gender	✓	✓	✓
Marital status	✓	✓	✓
Memberships	✓	✓	✓
Family life cycle	✓	✓	✓
Employment	✓	✓	✓
Ethnicity	✓	✓	✓
Income	✓	✓	✓

## SUMMARY

Given this it seems appropriate for us to be examining the dynamics of non-participation among Idaho anglers by using the three sub-populations — people who have never fished, those who have quit fishing since 1987, and those who have been active anglers from 1987 to the present.

The three survey instruments we developed incorporate ideas from the survey of bureau staff and build upon the foundations of the three literature synopses. The instruments are also strengthened by the use of several previously developed and validated scales, such as the motivation and consumptiveness scales.

As presented here, the scope of work of this project has been expanded to include three literature surveys, and three separate mail surveys (along with instrument design, administration, analysis and reporting). This in effect has resulted in three almost separate studies.

We anticipate completing the administration of instrument 1 by mid February, and that of the other two about 7 weeks after initiation. Response rates will be available at that time. Data entry will begin as soon as questionnaires begin arriving. Analysis and reporting will be completed by the end of May.

Submitted by:

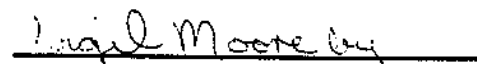
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